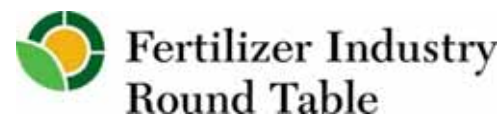




Suzanne Minter

Manager, Oil and Gas Consulting
BENTEK Energy

Natural Gas Outlook



North American Natural Gas

The Fertilizer Institute

November, 2014

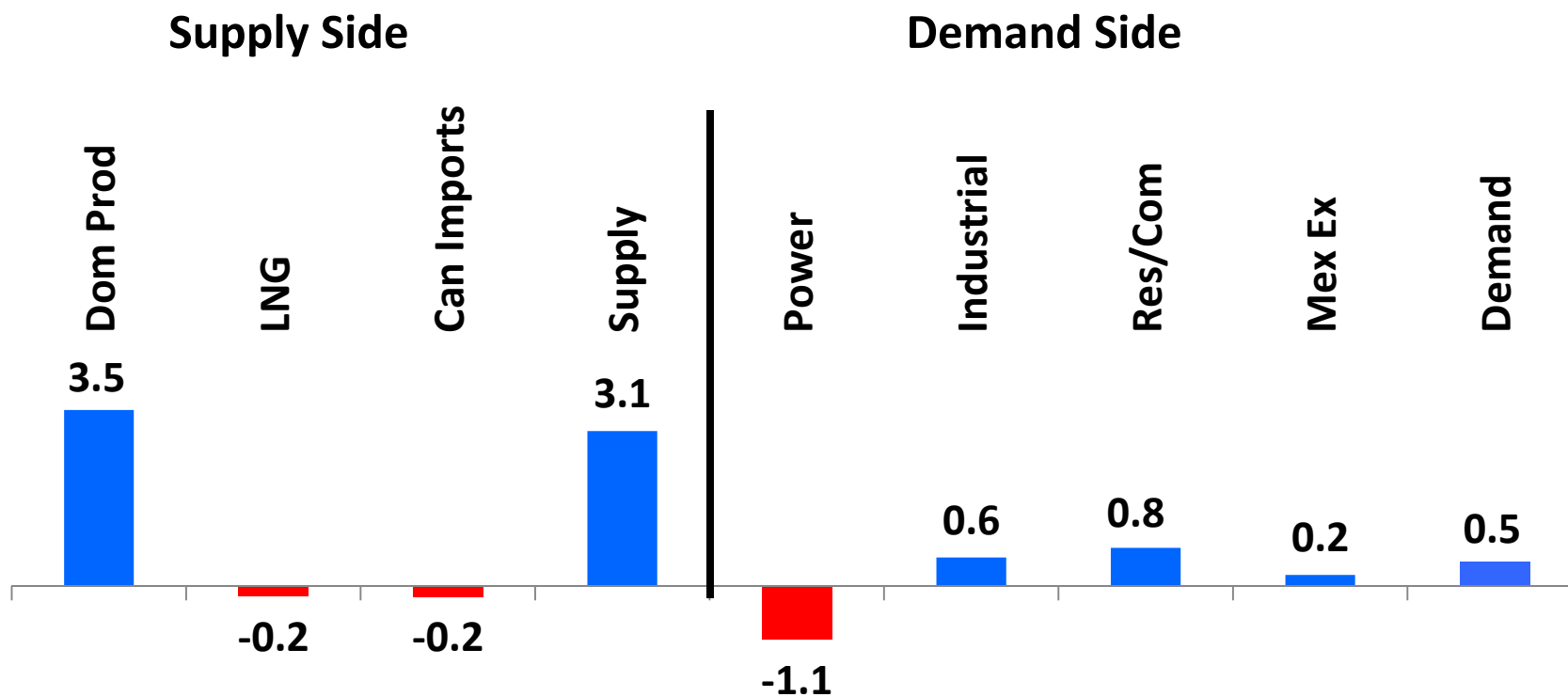
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- This summer saved us – storage at unforeseen levels could pressure near term price outlook
- North American production growth continues to shape market; breaking traditional flow patterns and pricing relationships
- Drilling economics favor wet plays with NGLs or Oil over dry Natural Gas plays.
- US production growth is very focused on the Utica and Marcellus plays in the Northeast.
- Gas fired power generation demand rises while industrial demand growth increases especially in the Gulf Coast.
- New North American gas production exceeds domestic demand growth in forecast; exports (LNG + Mexico) required to balance market

Filled storage just in time for winter.....



2014 summer vs. 2013 summer



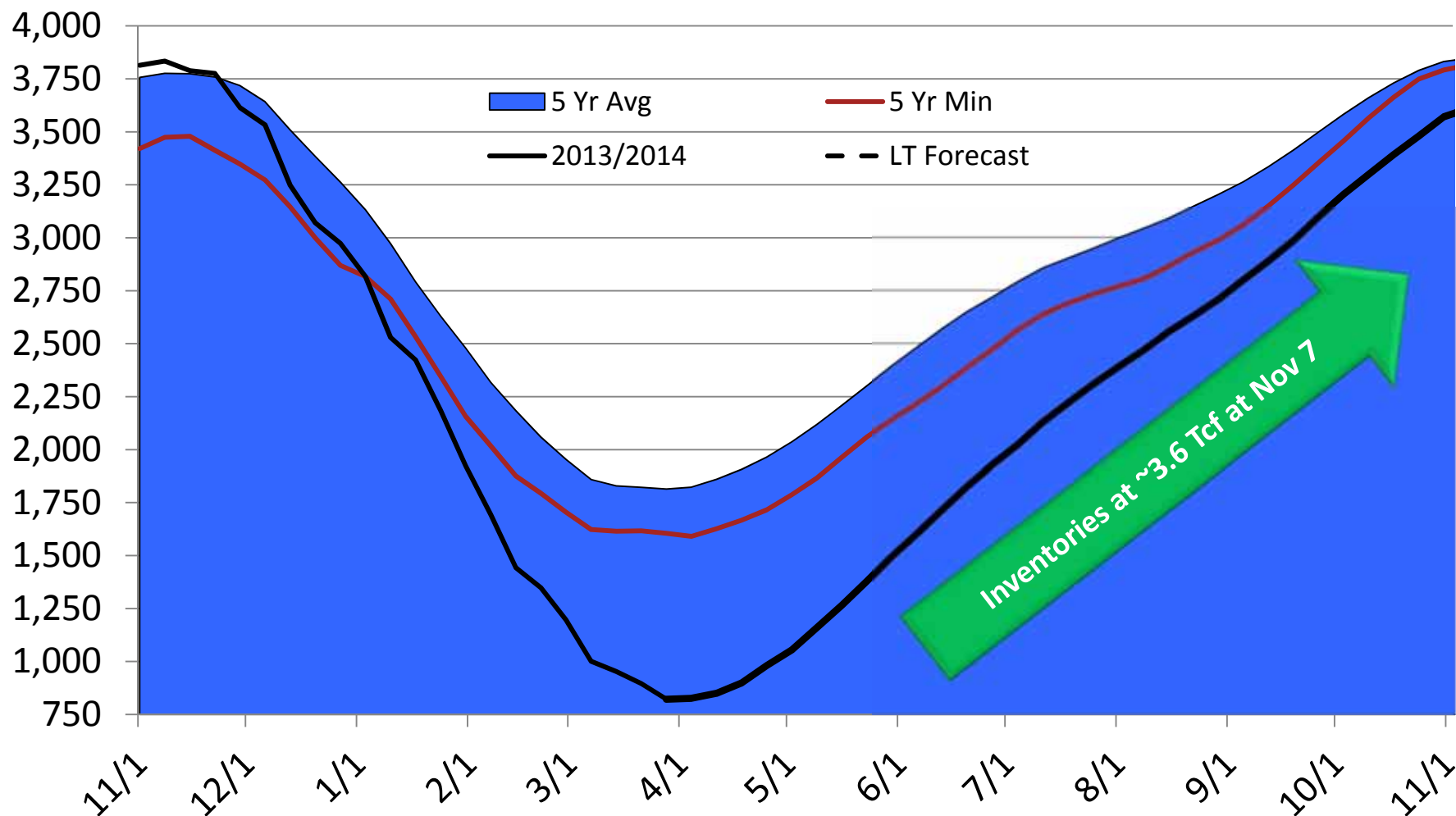
Summer 2014 : 2.6 Bcf/d Long Versus Summer 2013

Source: BENTEK Supply & Demand Report

Storage inventory carry-out within ~200
Bcf of the 5 year average

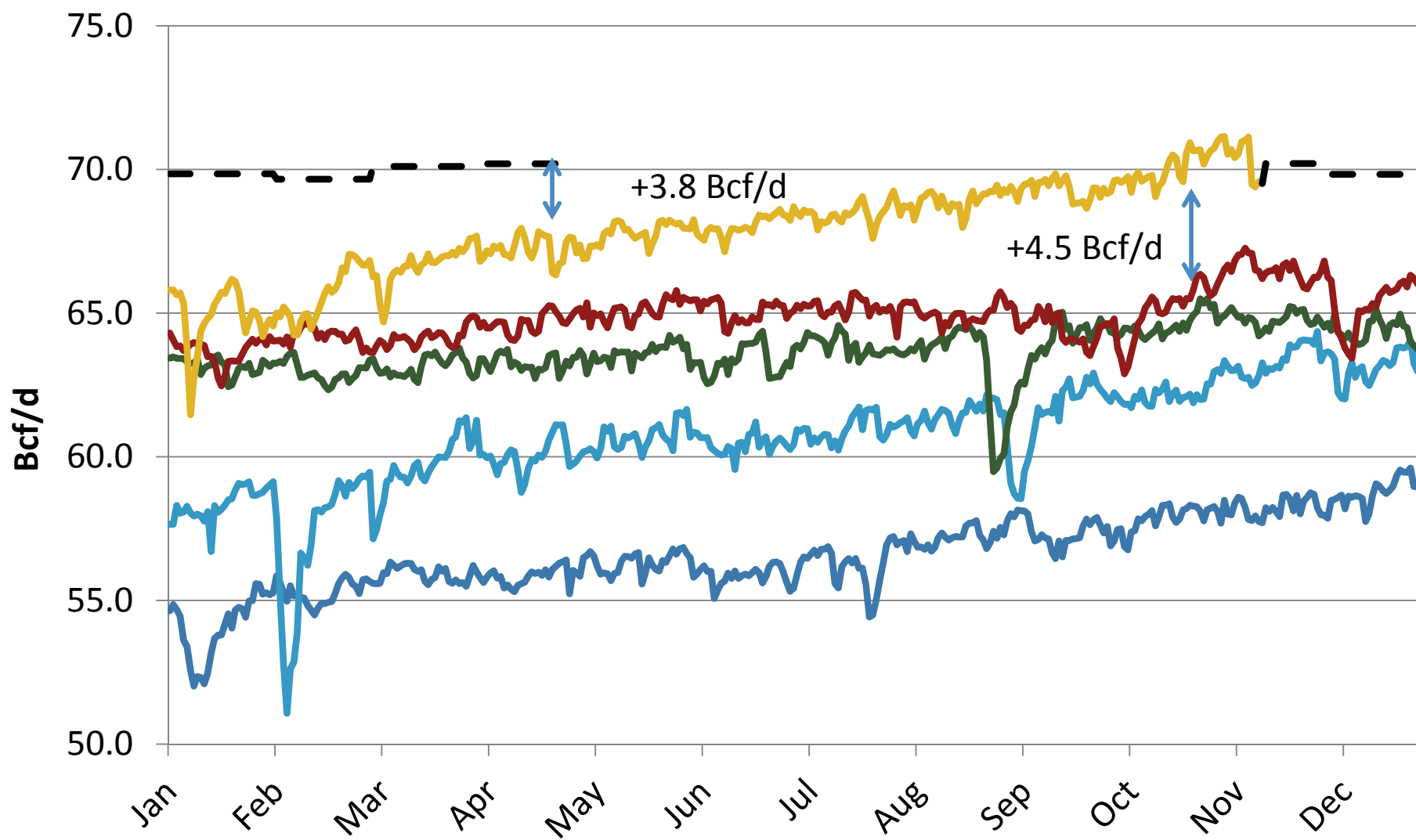


US Storage Inventories (Bcf)



Source: EIA/BENTEK Market Call Short Term

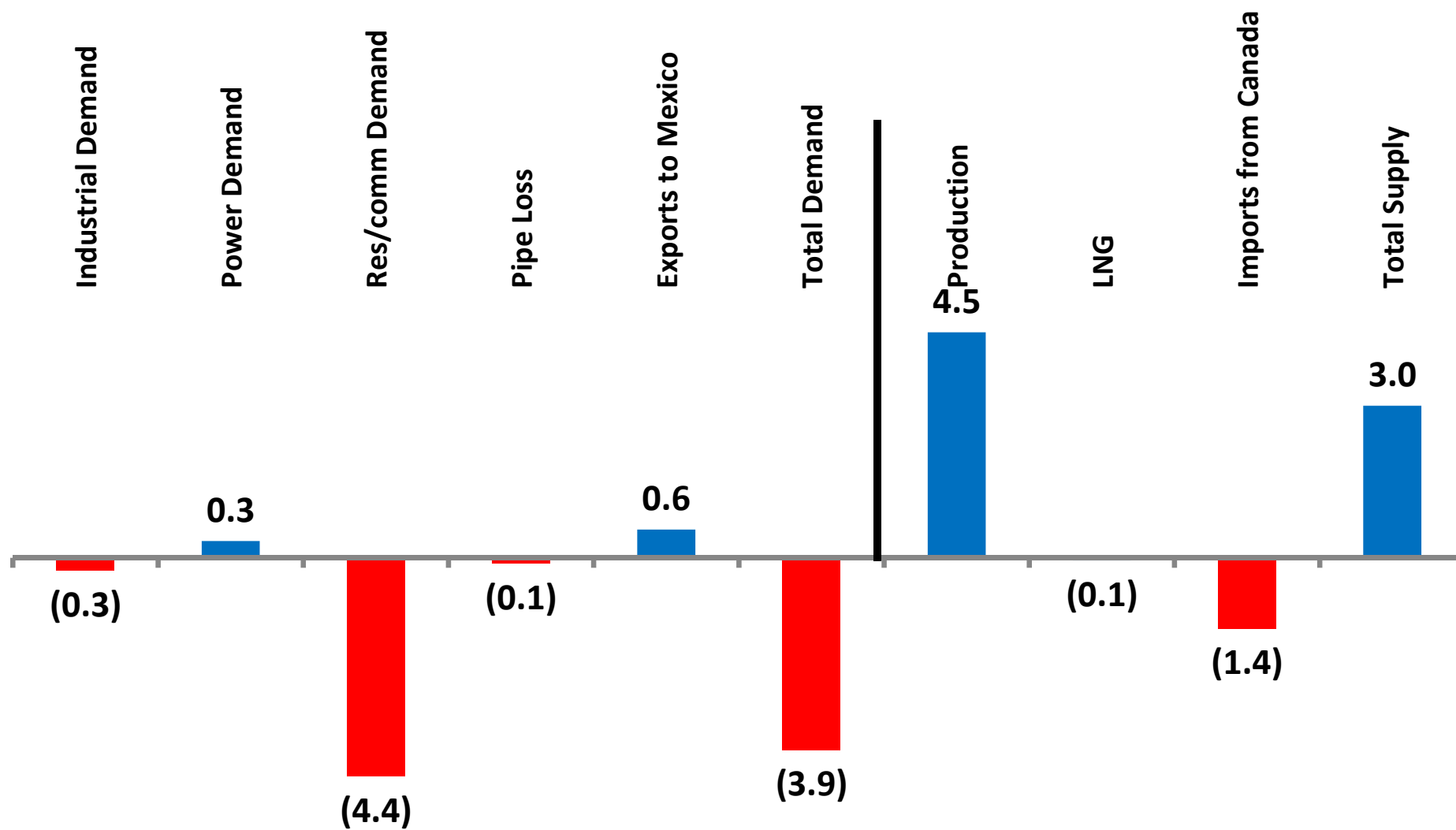
YTD - production continues to boom – Since August
YOY is up 4.5 Bcf/d – Forecast tend to continue



Source: EIA/BENTEK — 2010 — 2011 — 2012 — 2013 — 2014 — • Forecast

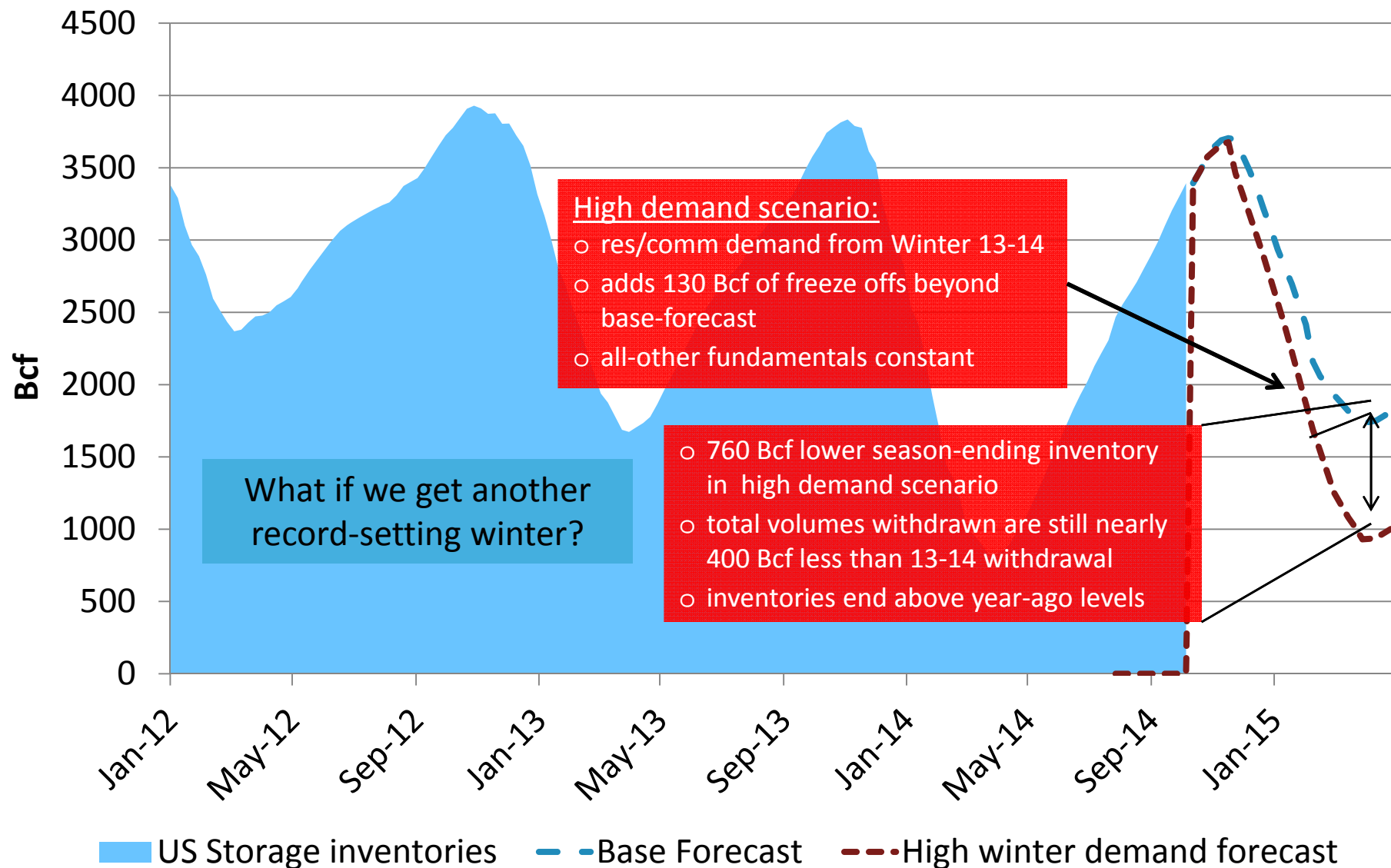
Winter-over-winter outlook

Winter 13-14 vs. Winter 14-15 (Bcf/d)



US looks to be net-long 6.9 Bcf/d winter-over-winter

Production Growth Trumps High-Demand Case

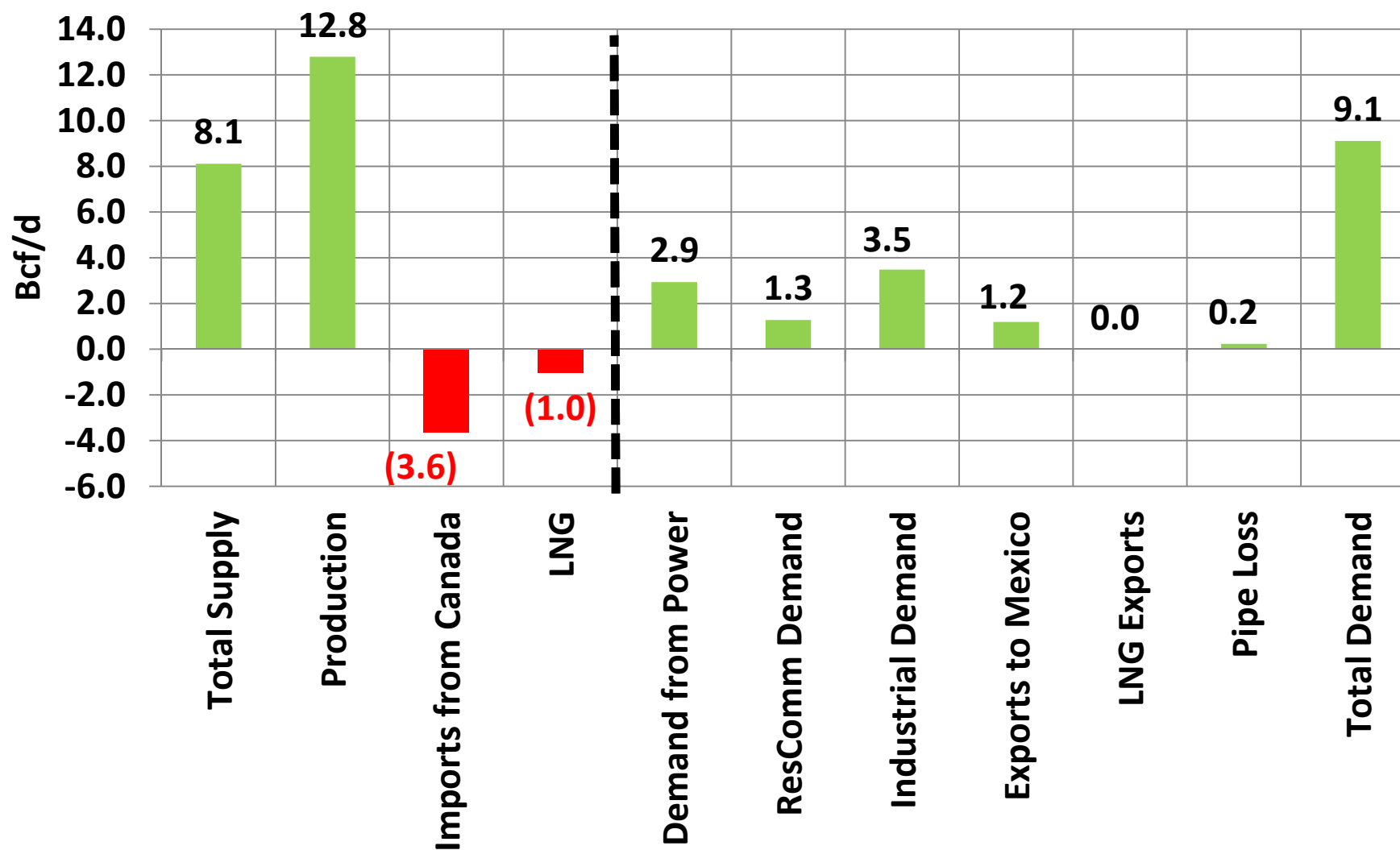


Long Term Outlook



To date displaced imports coupled with increased domestic demand have balanced US NG growth

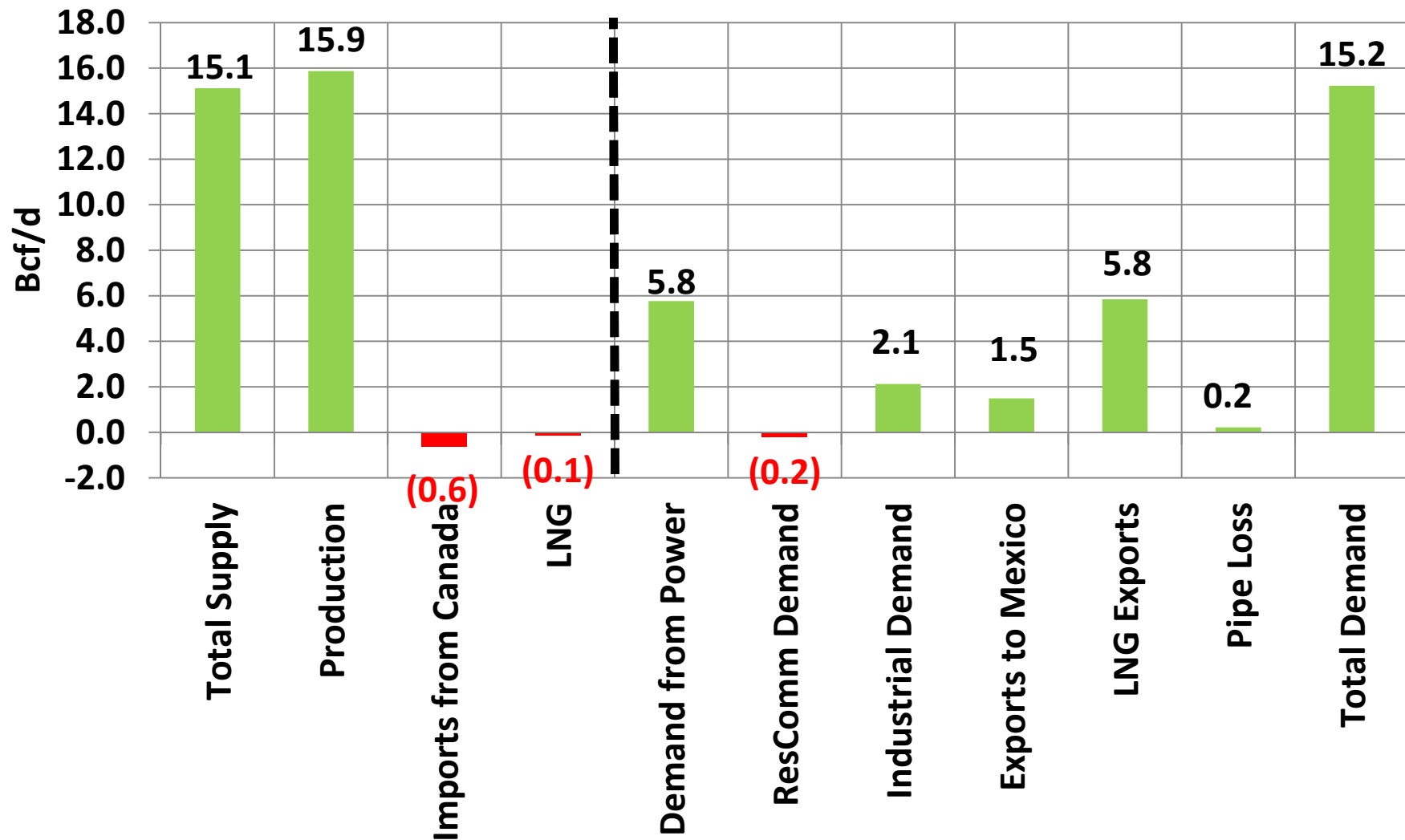
2009-2014 Fundamentals



Source: BENTEK Cell Model

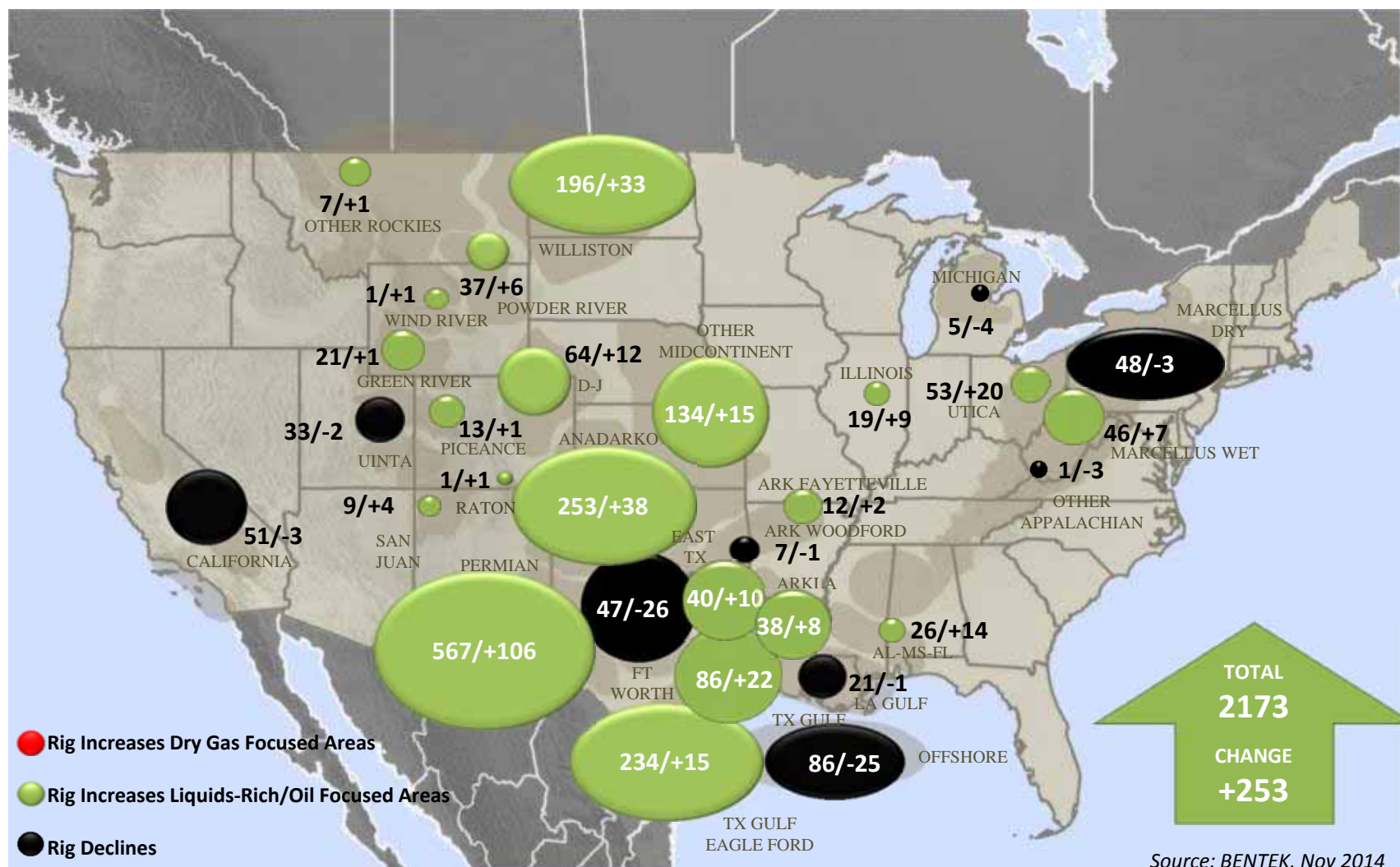
Going forward, power burn and exports are key balancing items to lower 48 NG growth

2014-2019 Fundamentals



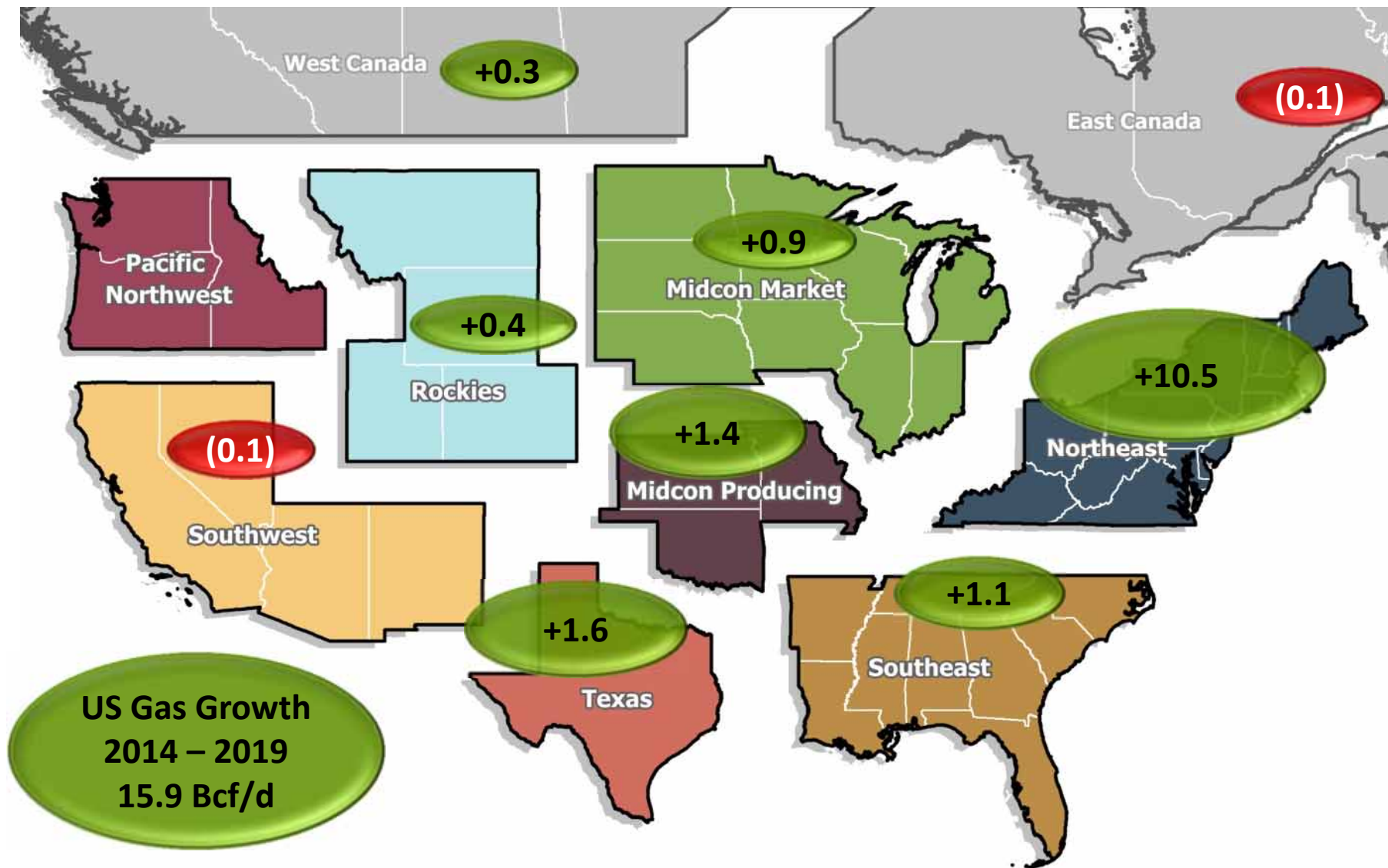
Source: BENTEK Cell Model

Plays with high returns attract drilling rigs



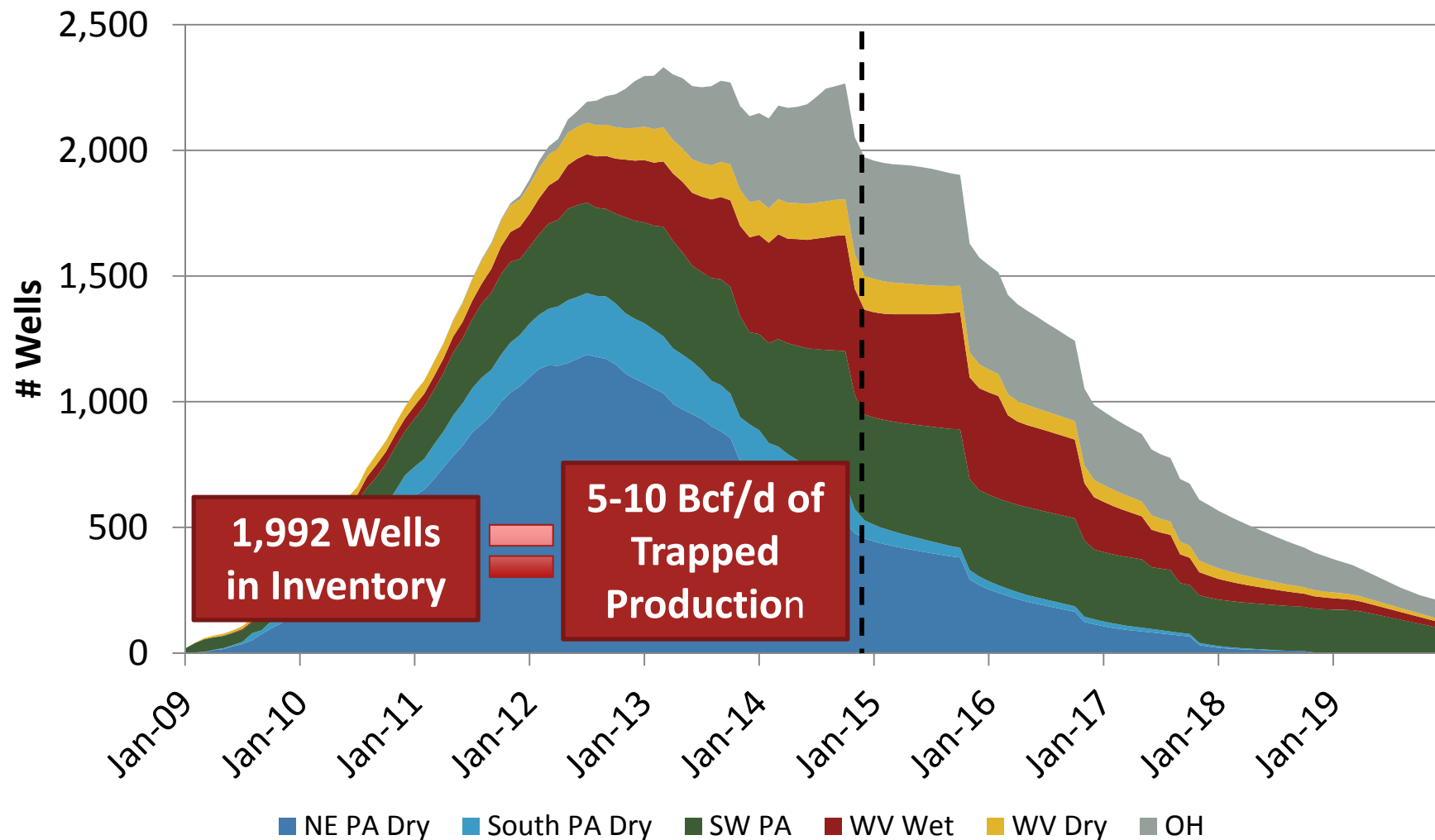
Active rig count: Nov 7, 2014 / Change in rig count from Nov 1, 2013

Production in the US to reach 83 Bcf/d by 2019 - driven by NE growth

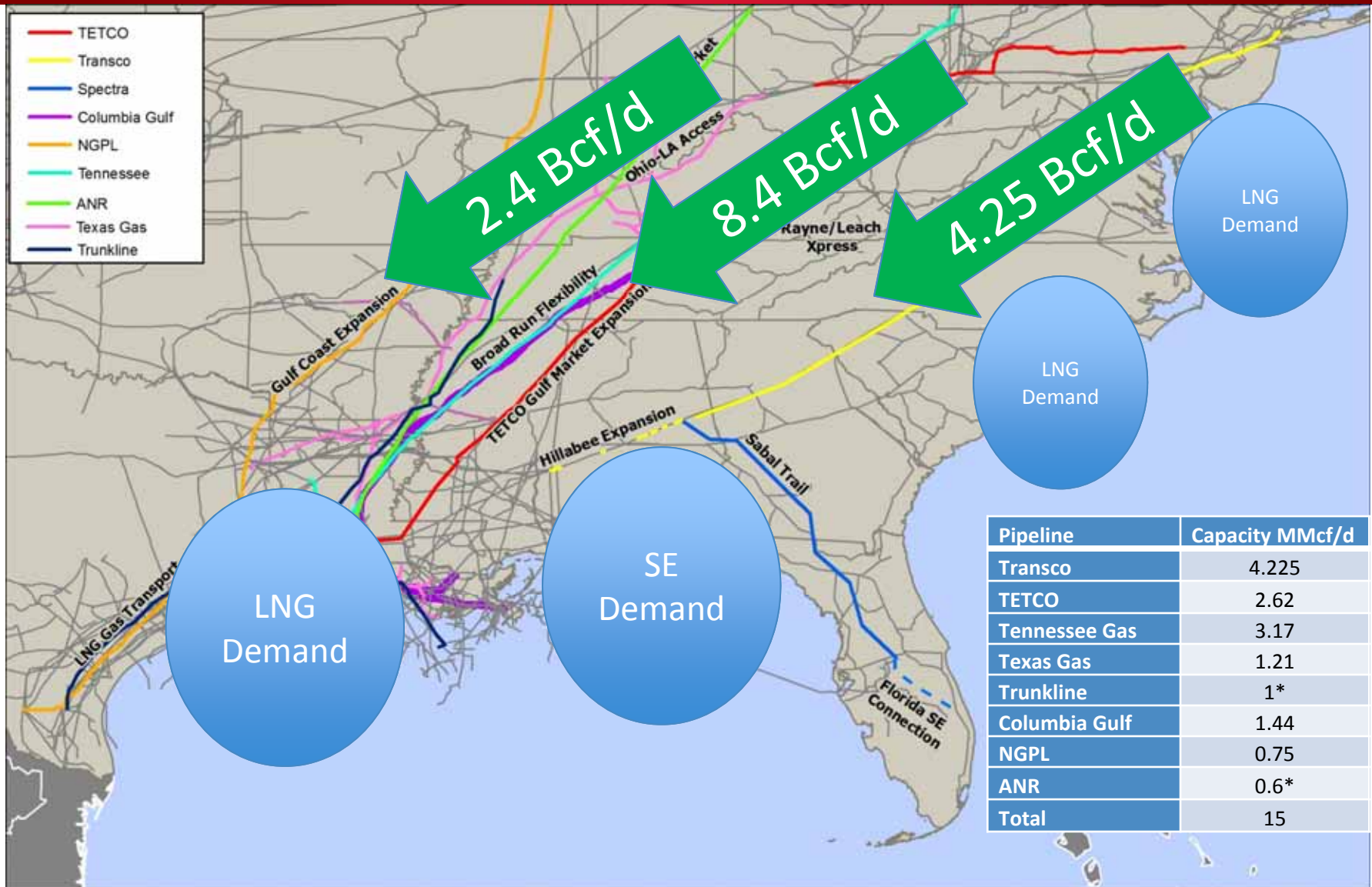


Backlog: Rely on expansion projects to relieve well backlog

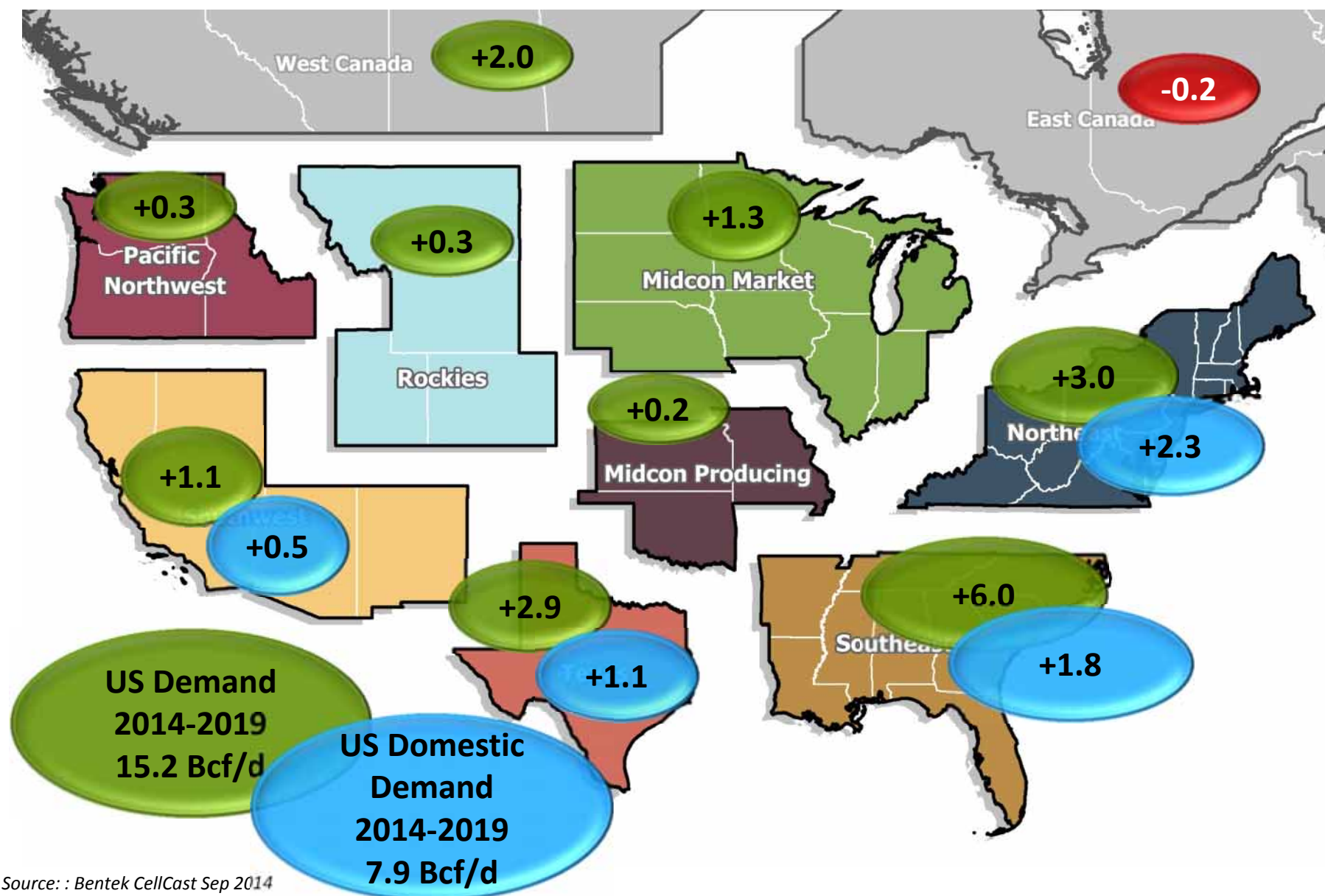
Well Backlog by Production Region
(drilled but not producing)



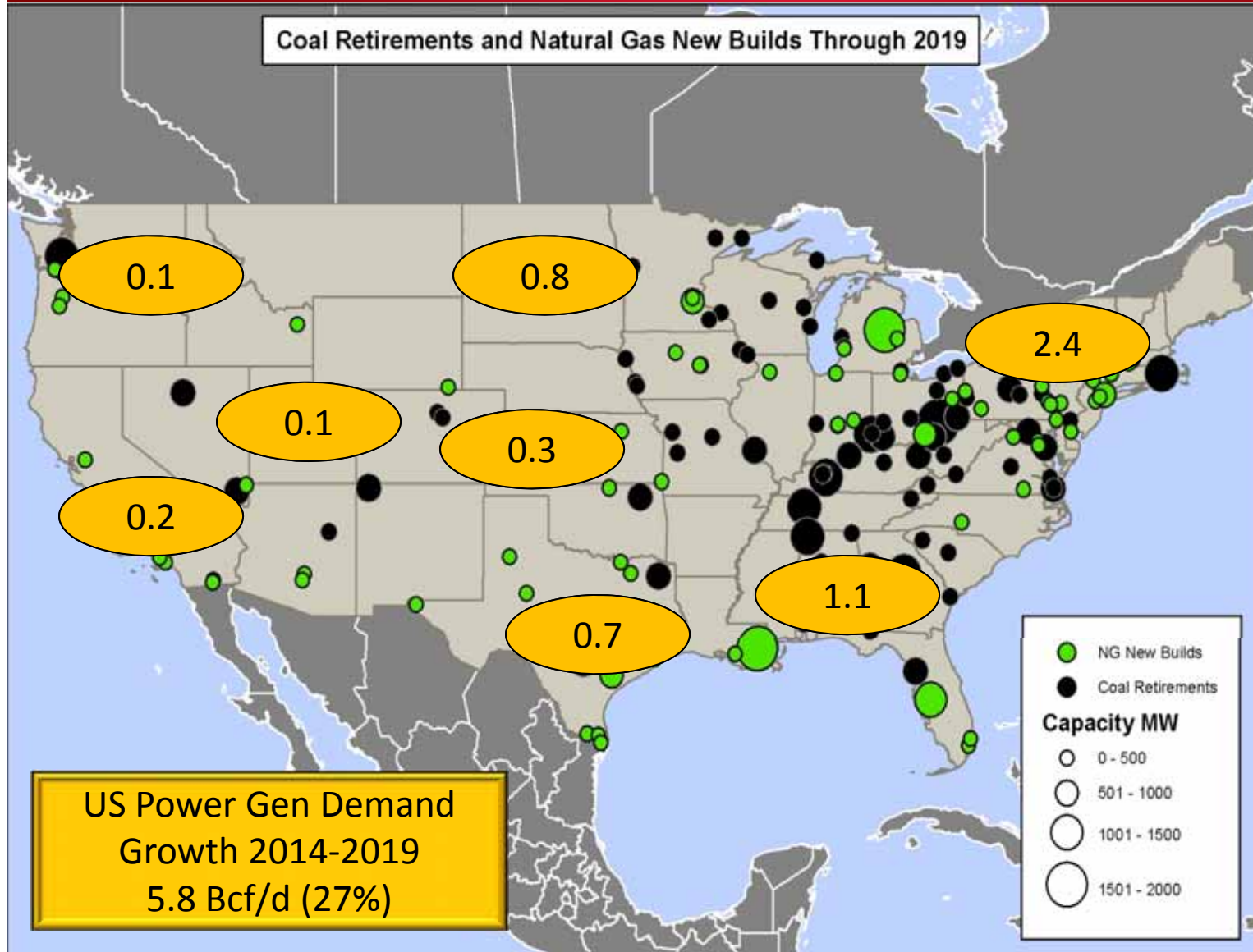
Southeast expansion projects bring 15 Bcf/d of capacity



US demand growth relies on exports



New Gas Fired Generation and Coal Retirements Lead to Significant Increase in Power Demand



Under Construction

Year	MW
2014	2,908
2015	3,804
2016	4,815
2017	1,664
Total	13,191

Gas Burn Equivalent

1.2 Bcf/d

Under Construction +
Proposed Gas Burn
Equivalent

5.3 Bcf/d

Gas Burn Equivalent assumes all plants are combined-cycle running at 50% utilization with heat rates of 7.5.
Source: North American Power Plant Databank

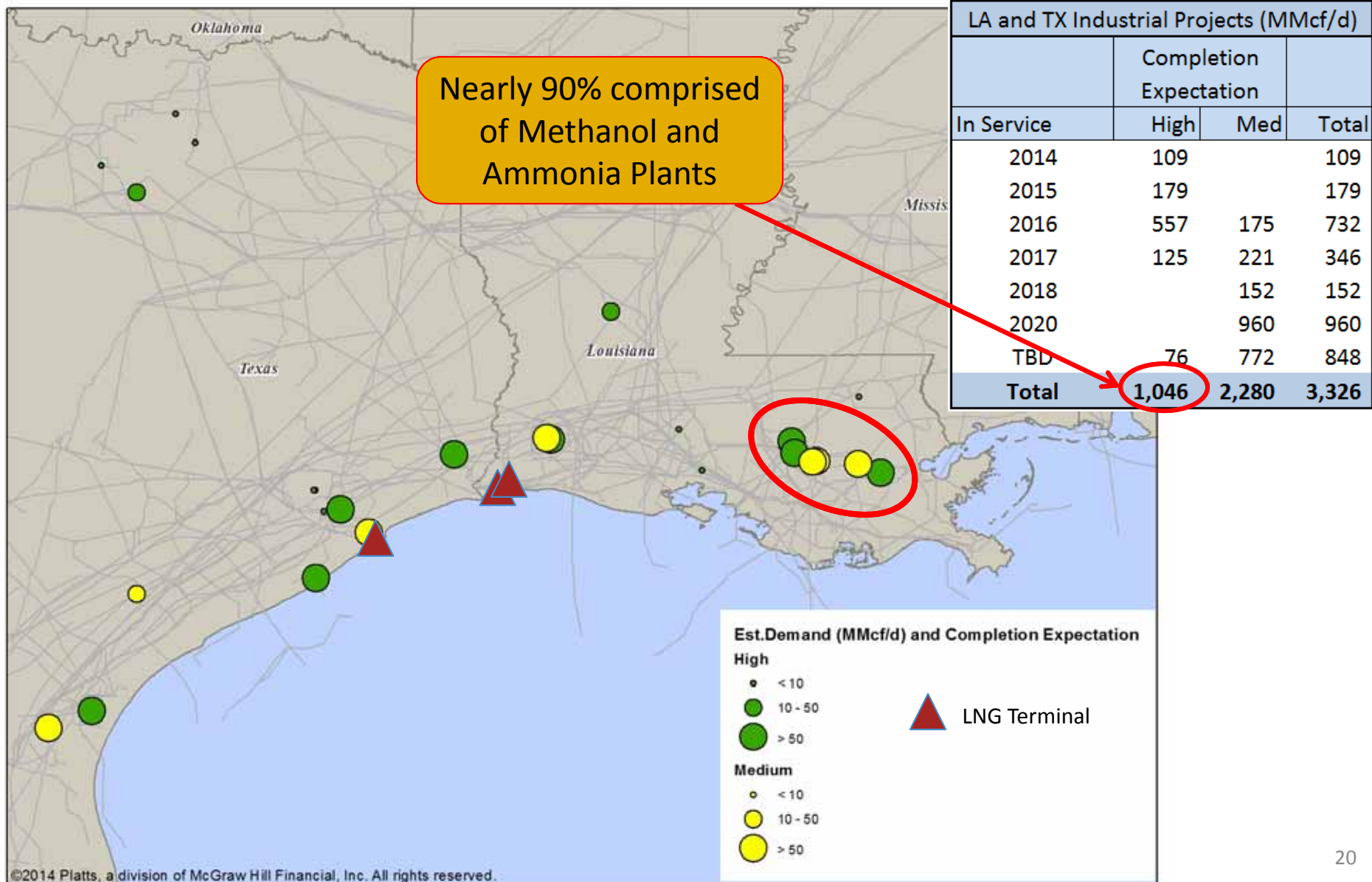
Southeast leads industrial demand growth

US Industrial Sector Project Regional Demand						
	Demand (MMcf/d)					
Region	Chemical	Metals	Petroleum	Other Industrial	Total Demand	# Projects
Southeast	306	3	15	1,942	2,265	204
Texas	132	62	2	1,103	1,300	34
Midcon Market	755	314	9	-	1,078	81
Pacific Northwest	84	-	-	444	528	6
Rockies	20	-	56	265	341	11
Northeast	11	2	4	220	238	88
Midcon Producing	92	-	2	6	100	23
Southwest	-	-	-	-	-	4
Total US	1,401	382	87	3,980	5,851	451
<i>Projects from Jan 2014 through 2021</i>						

**Growth
2014-2019
2.1 Bcf/d**

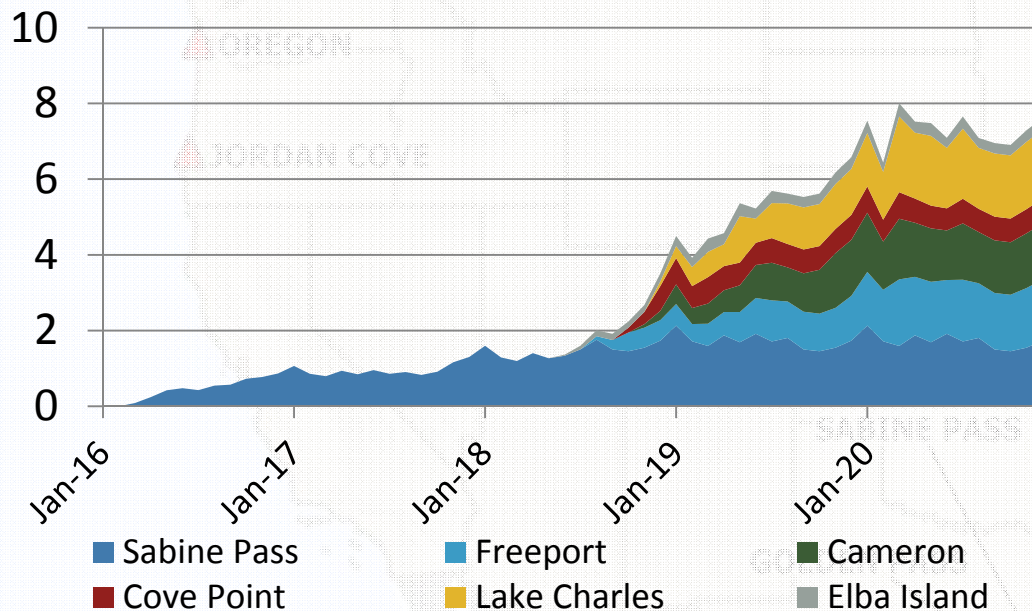


High concentration of projects on gulf coast



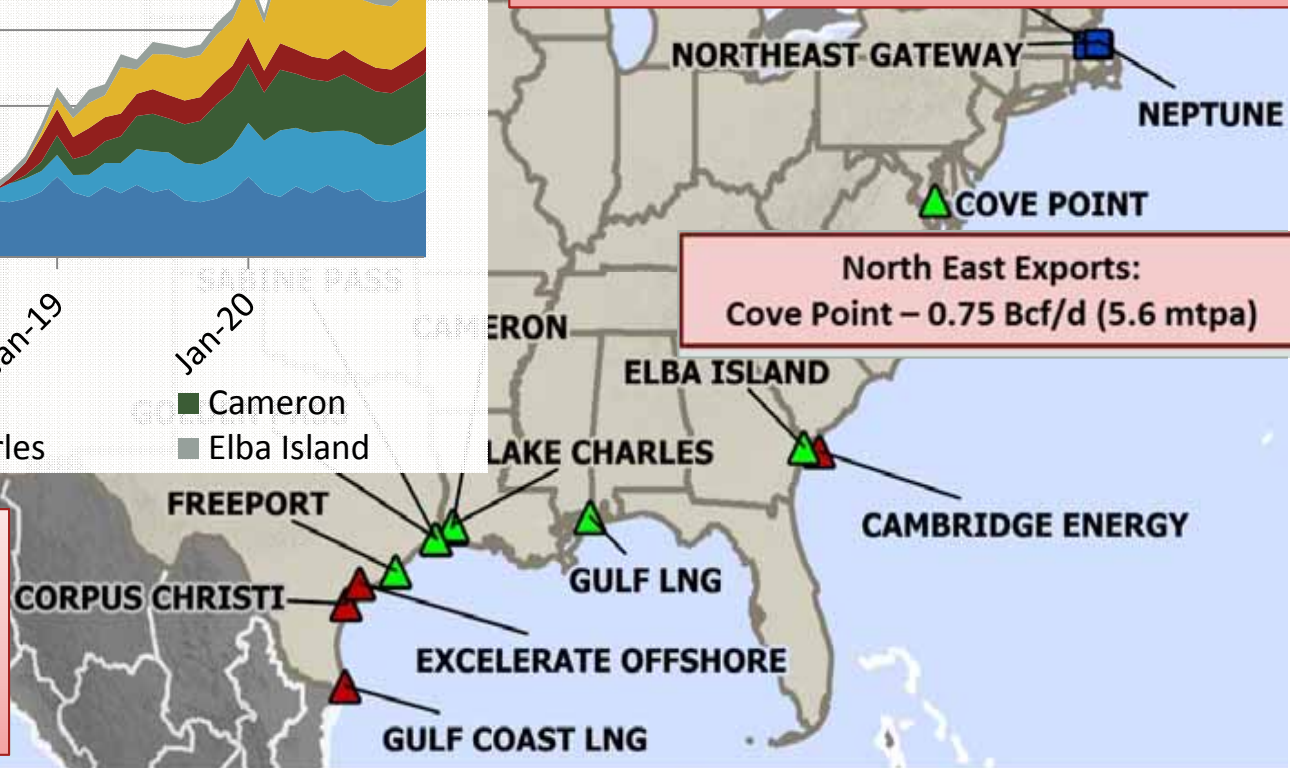
US LNG exports hit 7 Bcf/d by 2019 and 8 Bcf/d by 2020

LNG Exports By Facility (Bcf/d)



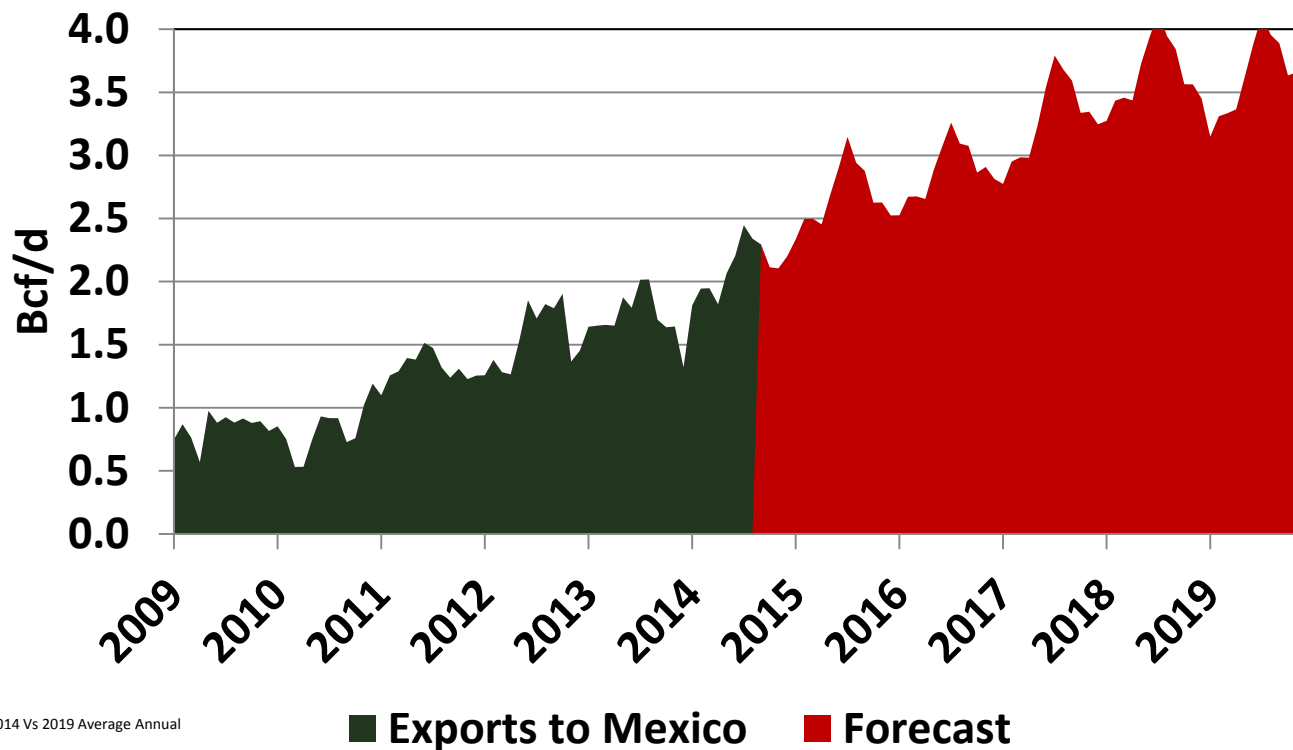
11.6Bcf/d of MOUs have been signed on 17.4 Bcf/d of proposed capacity.

- LNG Exports could average 8 Bcf/d in 2020
- Export forecast risk is to the upside



Mexico plans more than 40 Gas-fired power projects

Exports to Mexico to Increase 1.5 Bcf/d to 3.6 Bcf/d by 2019



2014 Vs 2019 Average Annual

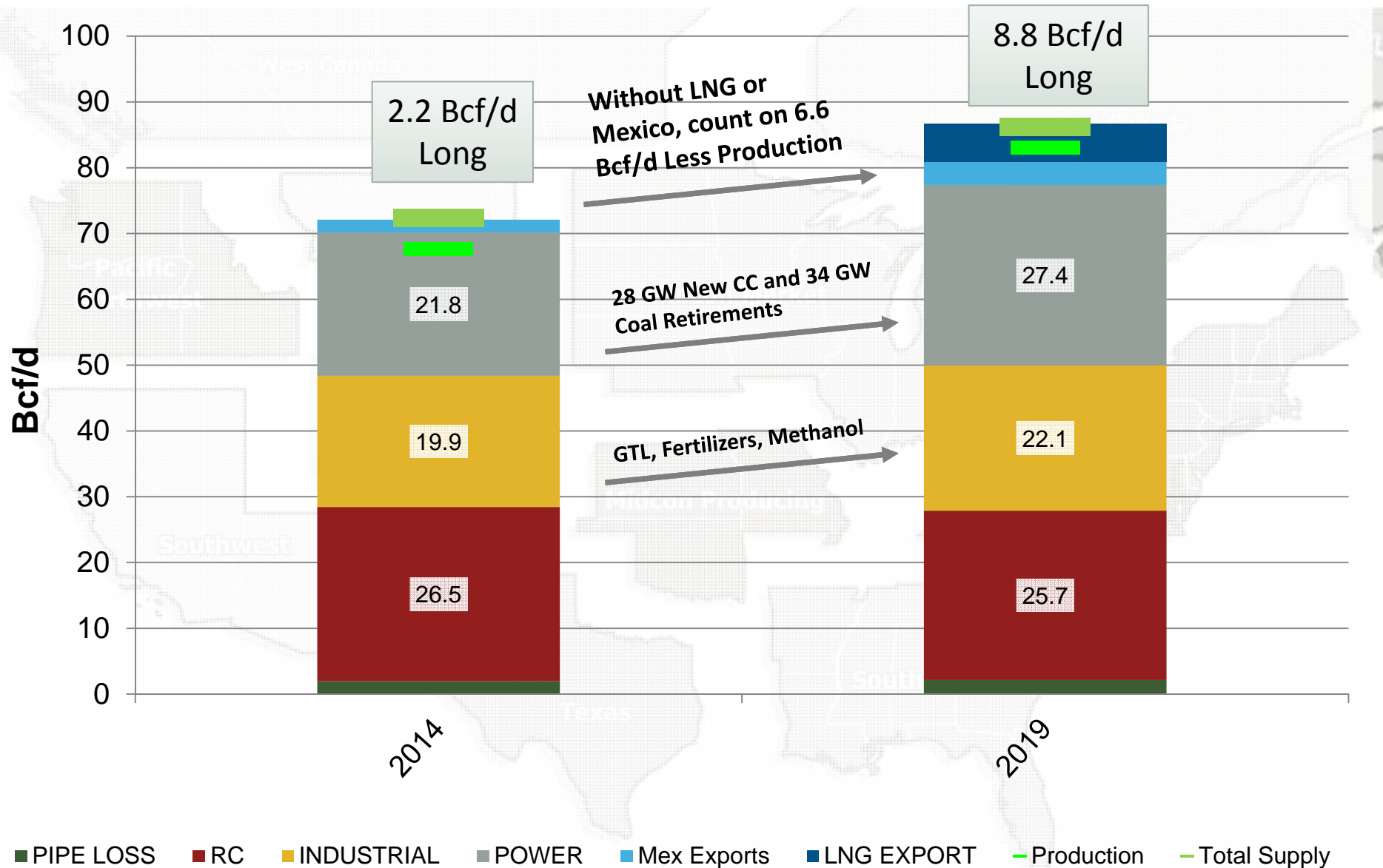
■ Exports to Mexico ■ Forecast

- New or Expanded Combined-Cycle Gas-Fired Power Plants
- Existing Mexican Pipelines
- - - Mexican Expansion Pipelines

Valladolid IV

Yucatan

Growth in power burn critical as well as with LNG and Mexican exports to balance production forecast

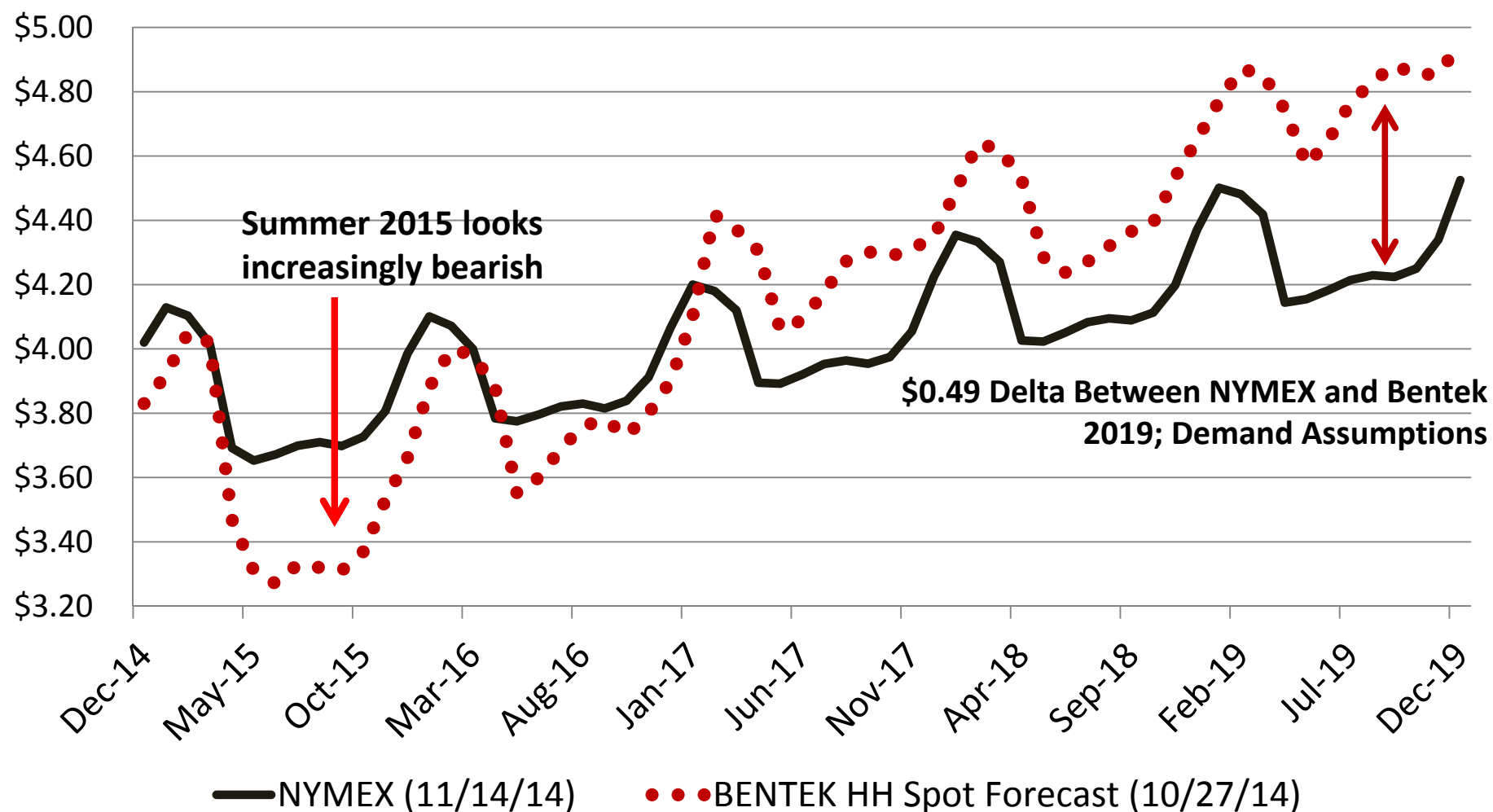


Source: BENTEK Market Call Long Term NG

NYMEX Forward Curve Expectations



\$4.16 Bentek Average (\$4.04 NYMEX) Thru Dec 2019

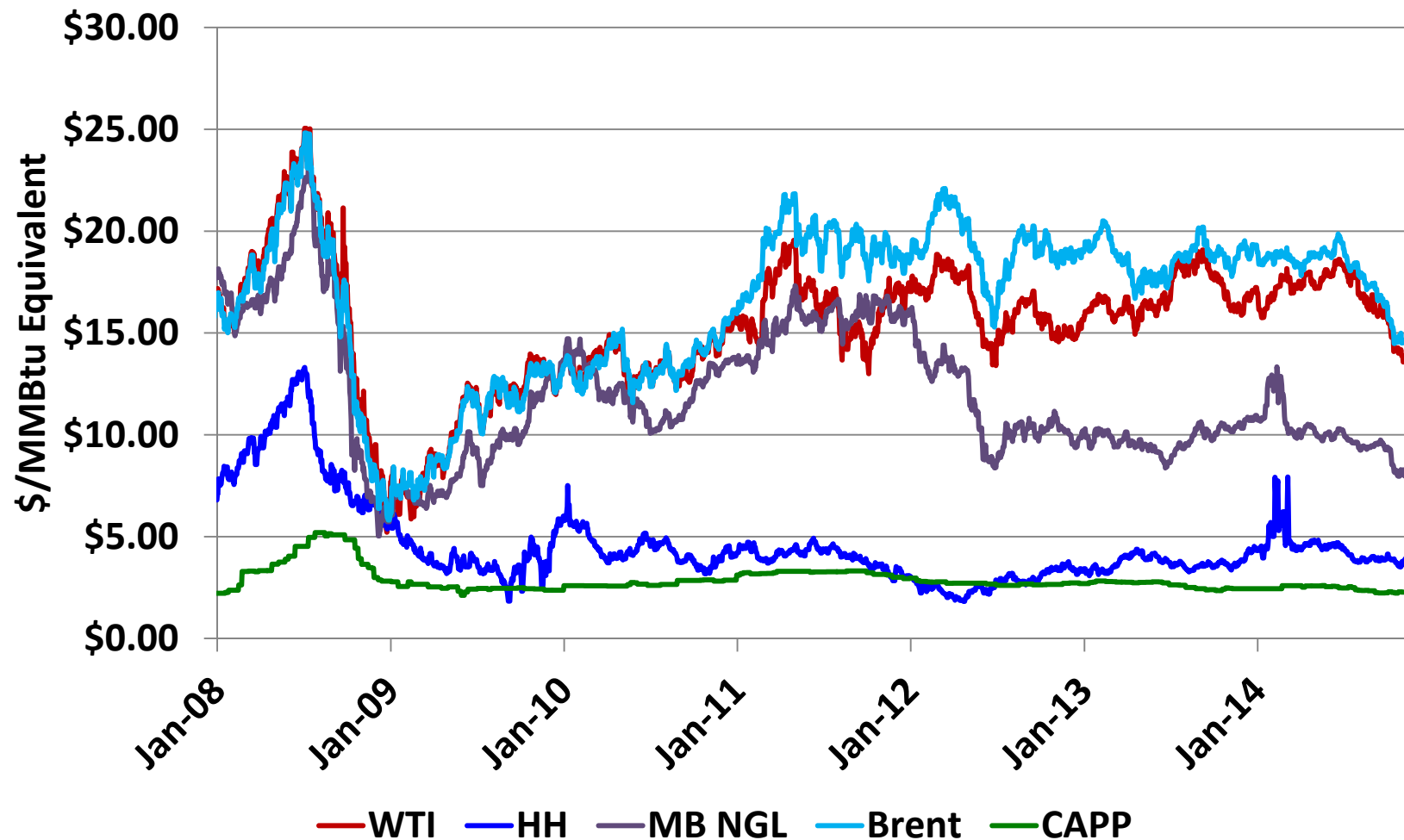


Source: BENTEK Market Call Short/Long Term, NYMEX

Biggest Risk To Production Scenerio



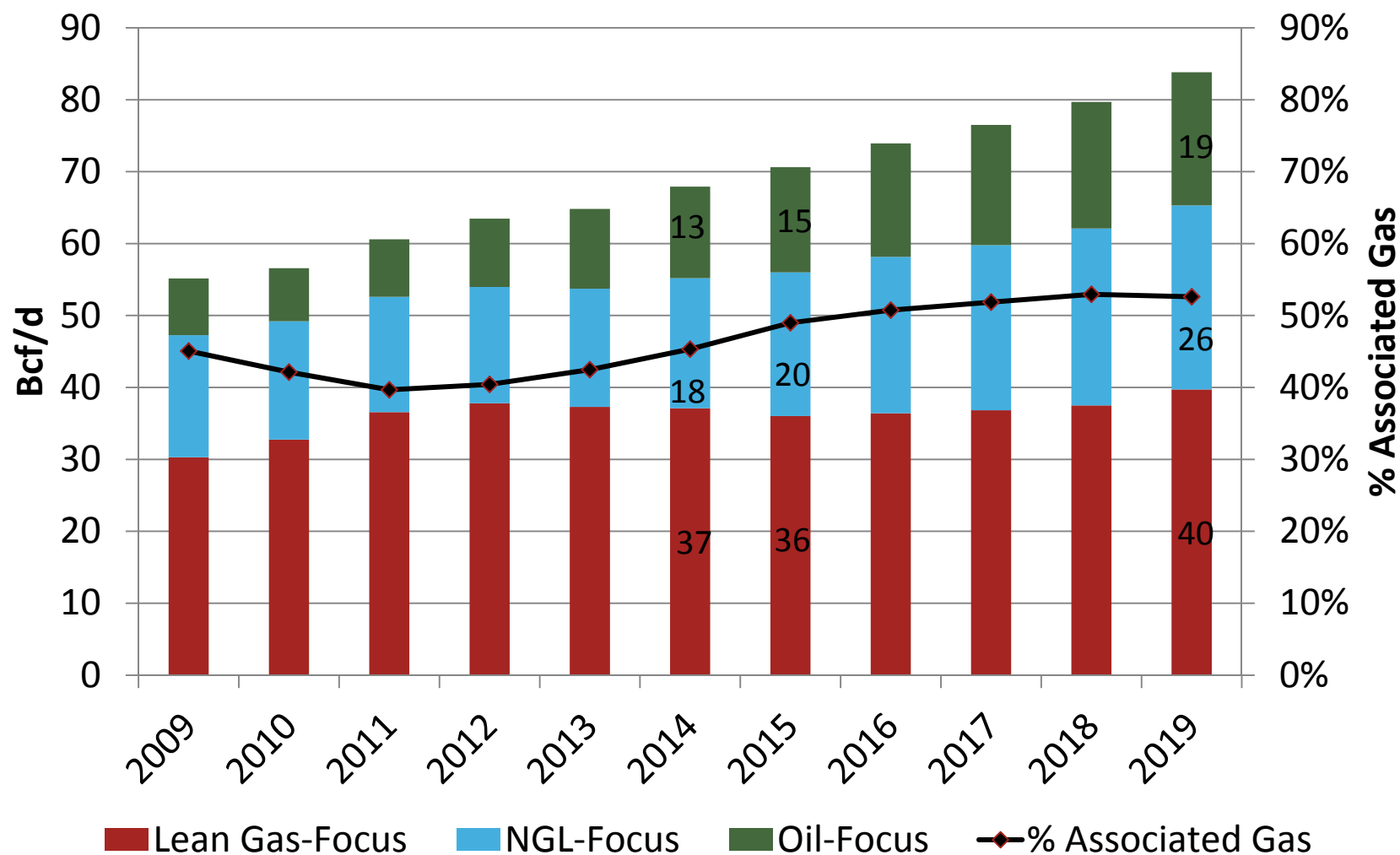
Gas, oil and NGL price comparison: MMBTU equivalent



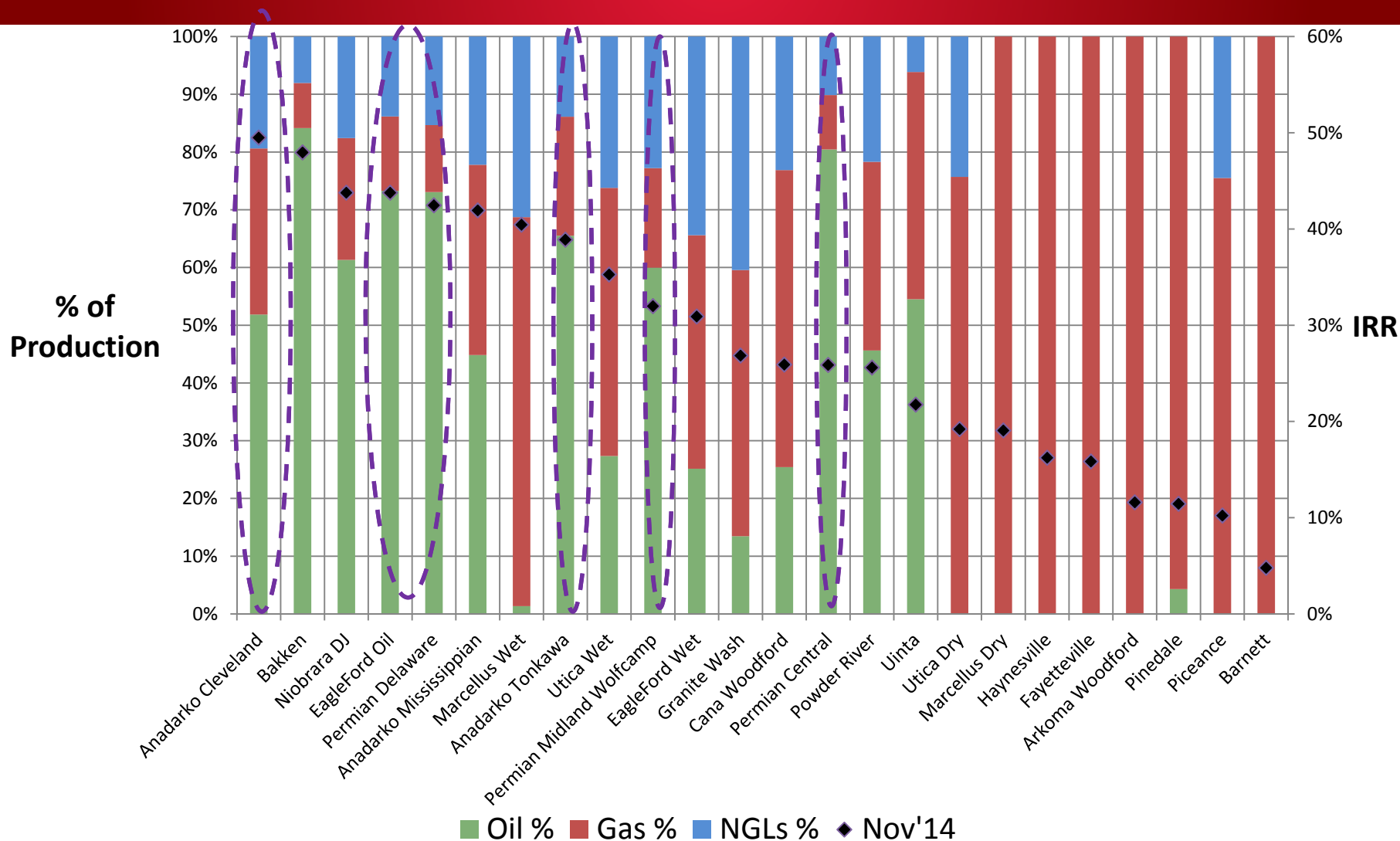
Associated gas production accounts
for 45% of current supply



Bentek Dry Natural Gas Forecast by Basin Focus

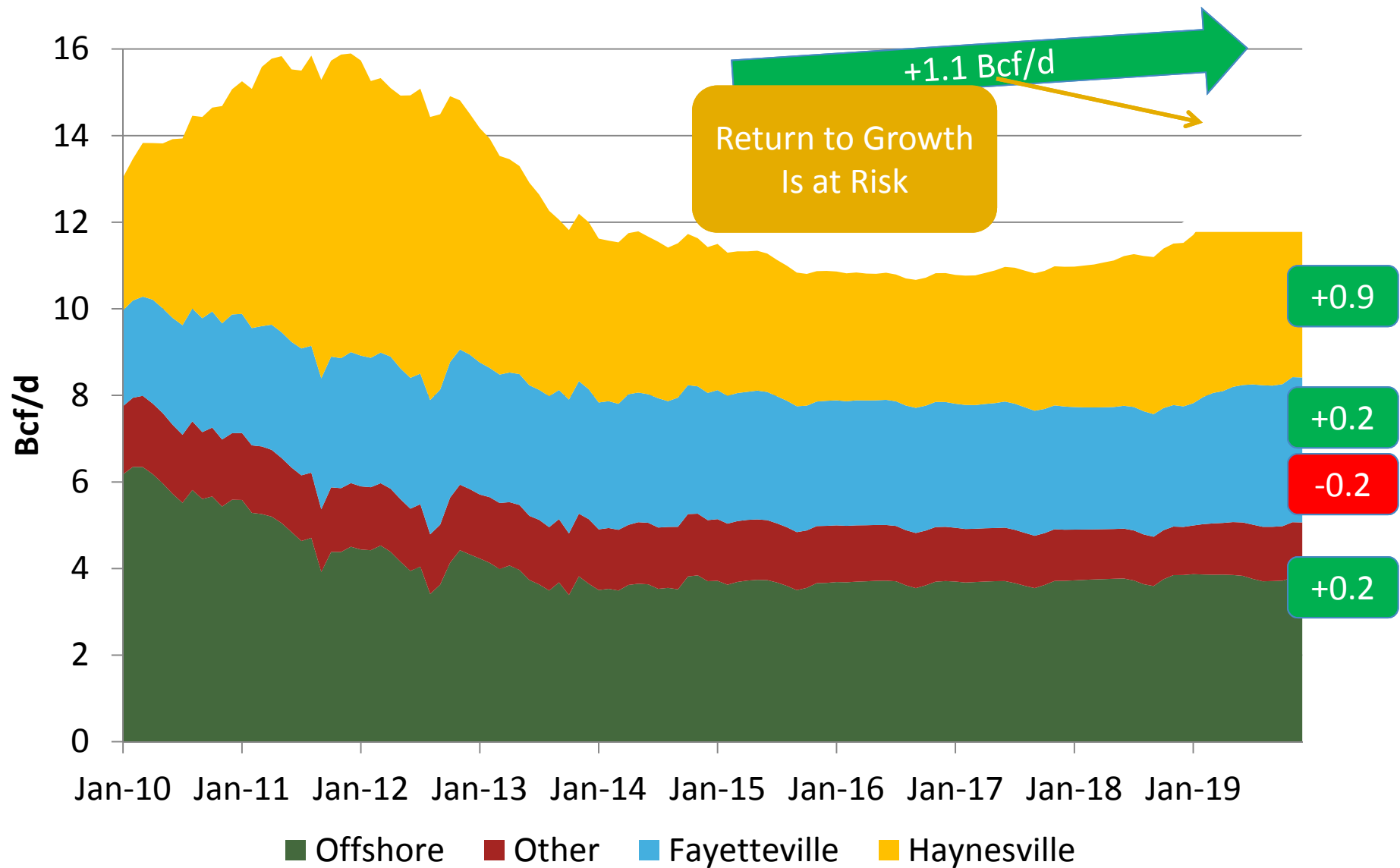


Oil-weighted production tilts play economics – Anadarko & Perm forecast to yield 7 Bcf/d associated gas



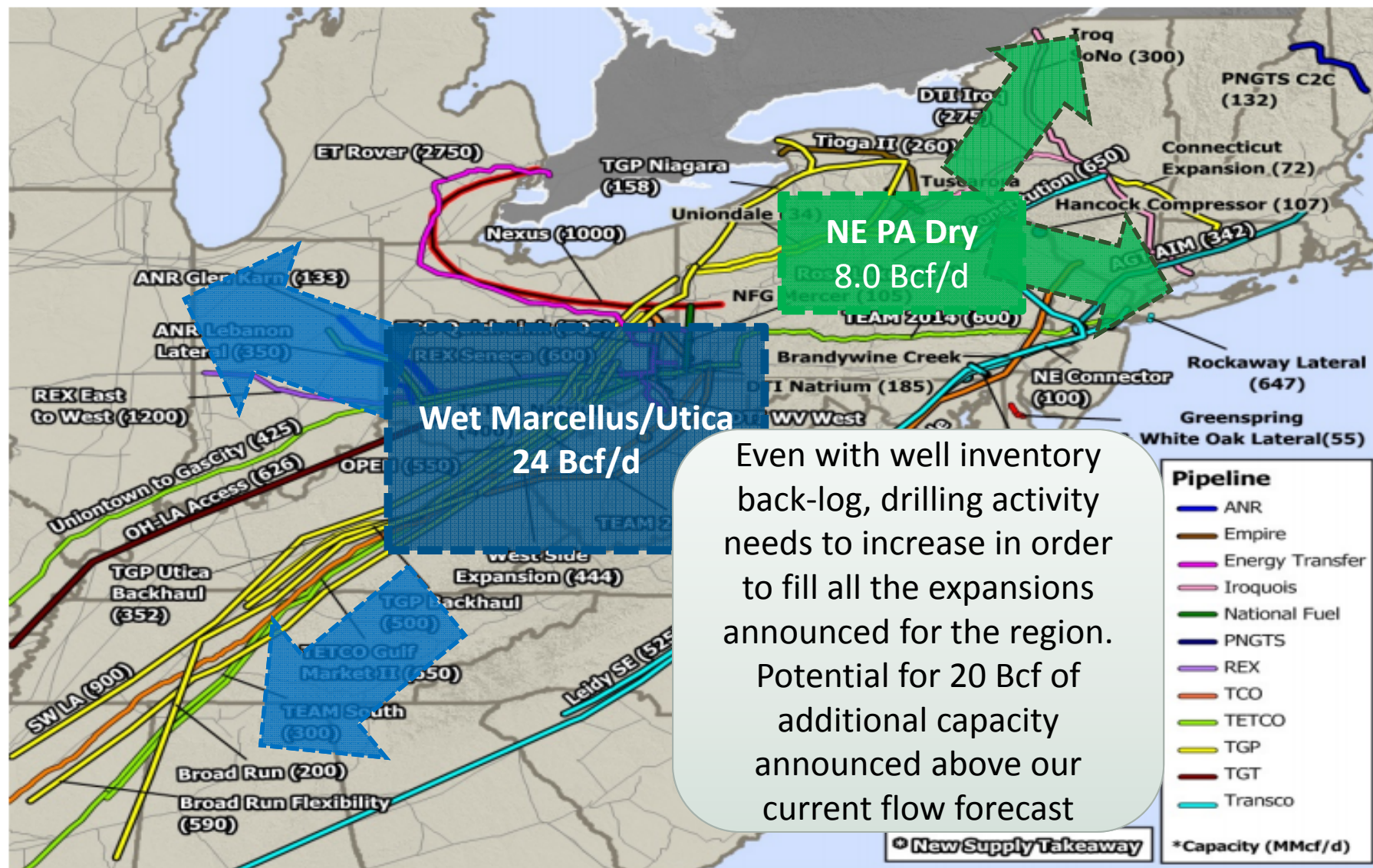
Nov 2014 Price Assumptions: Gas = 12 month forward average curve for each regional pricing point (range \$2.77 - \$4.02/Mcf)
Oil = 12 month forward average WTI +/- differential (range \$62.89 - \$83.80/barrel)
NGLs = weighted average \$/barrel, 12-mo forward average Mt. Belvieu prices (range \$28.71 - \$40.02/barrel)

Southeast production forecast remains at risk –
needs sustained higher prices



More than ~41 Bcf/d of announced capacity expansions in the Northeast by 2019; Only 32 Bcf/d will provide takeaway for production

2014-2017 Pipeline Expansion Projects Map



- Year on year production growth coupled with weather are key to determining the storage situation
- North American production growth continues to shape market; breaking traditional flow patterns and pricing relationships
- In current price environment drilling economics favor wet plays with NGLs or Oil over dry Natural Gas plays
- Supply is demand constrained - new North American gas production exceeds domestic demand growth in forecast; exports (LNG + Mexico) required to balance market
- Long term prices of NG, NGLs and Crude may help determine where production growth comes from and how proposed pipeline infrastructure may be builtout

Thank You

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